

one end) throughout the wound. Gauze wet with the solution is placed around the tubes loosely. The solution is instilled every two hours sufficiently to fill the wound cavity. This has proved more satisfactory than the continuous drip. Reinfection is the defeat of this sterilizing process. This may be due to error of aseptic technic, defective mechanical sterilization of the skin or wound, defective solution, or failure to include every part of the wound. When the technic is incomplete the cases do well for a time and then remain stationary. When the technic is efficient and a case fails to progress it is a sure sign that a pocket exists. These are often impossible to locate unless the patient is given a general anesthetic. Reoperation is indicated when a case becomes stationary and whenever exposed bone persists. It is surprising how constant and how extensive these pockets are in non-progressive cases. Exposed bone always means necrosis, and the peculiar form of surface sequestration requires artificial separation. Spontaneous separation is unusually slow, but these surface moulds are easily loosened by gently tapping with a chisel. They usually lift off *en bloc*.

Results following the Treatment of Pelvic Inflammatory Lesions by Surgical Measures.—CLARK and NORRIS (*Surg., Gynec. and Obst.*, xxv, 1917, 33) say that from a study of more than 500 cases in which the postoperative and remote results of surgical intervention in pyogenic infections in the Fallopian tubes were considered, they conclude that course of conservative treatment decreases mortality, and enhances the chances for securing a good functional restoration of the pelvic organs. In all cases of acute infections of the Fallopian tubes the patient should be kept under observation until the course of the case is defined. In the great majority the temperature subsides, the pain disappears, the tubal enlargements decrease to palpable proportions, and if the attack is a primary one the patient may be given a respite from operation until a recurrent attack supervenes. Even under these recurrent conditions the conservative policy is again pursued until subsidence takes place a second time, when an abdominal operation is advised, with a view to treating existing conditions to the best possible advantage. Usually both tubes are removed and the ovaries are conserved. If, under the conservative plan, the symptoms do not abate and the tube continues to enlarge, vaginal drainage is instituted, either by direct incision into the cul-de-sac or through the guidance of an abdominal incision. In the purulent lesions of the tubes all operative procedures are attended by a higher mortality and a greater morbidity, whereas under a conservative waiting treatment a patient will seldom die during an acute infection. In their series there was no death. In all hazardous cases the increasing severity of the symptoms and the enlargement of pelvic masses give ample warning and permit of a simple drainage operation that will tide the patient over the danger. When the acute attack has subsided the surgeon has the best opportunity for ascertaining, during the course of an operation, the exact degree of involvement of the tissues, and thus he is enabled to select the type of operation best suited to the individual case. Conservative operative procedures instituted with a view to restoring a closed Fallopian tube seldom restore fecundity. Plastic operations upon the fimbriated extremities of the Fallopian tubes, with a view of effecting restoration

of fecundity, are almost invariably failures and necessitate additional operations. They believe, therefore, that the safer policy is to remove the tubes by a wedge-shaped cornual resection in all doubtful cases, thus disregarding any attempt at restoration of fecundity. Hysterosalpingo-oophorectomy in the sexually mature women, the subjects of chronic infections of the uterus and adnexa, is followed by a lower mortality and a greater certainty of restoration to health than are possible after conservative operations. Conservative operations employed with a view to preserving ovarian tissue should be limited chiefly to women under thirty years of age. The routine drainage of pus tubes through an abdominal incision is an unsatisfactory procedure from every standpoint and should not be resorted to if it can possibly be avoided.

THERAPEUTICS

UNDER THE CHARGE OF

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Clinical Observations on the Effect of Digitalis in Heart Disease with Pulsus Alternans.—WINDLE (*Quart. Jour. Med.*, 1917, x, 275) points out that pulsus alternans must not be confounded with other types of pulse irregularity associated with alternating weak and strong pulse waves. A pulse tracing of pulsus alternans is characterized by the sequence of a strong and weak pulse which follow one another at equal time intervals, or the weaker pulse may occur a trifle ($\frac{1}{10}$ of a second) late. The weaker contraction of the pulsus alternans never occurs prematurely under any circumstances, and the pause after it may be slightly shortened but is never prolonged. The cause of the pulsus alternans is an overtaxed heart. It can be produced experimentally by any procedure that leads to exhaustion of the heart, and it signifies a disproportion between the contractile power of the heart and the rate at which it is beating. From this the corollary necessarily follows that in pulsus alternans the slower the rate the greater the degree of exhaustion of the heart. Clinically pulsus alternans is met with in paroxysmal tachycardia, in acute toxic diseases, in severe cardiac failure from rheumatic lesions, and is most frequently associated with advanced and widespread arterial disease in the aged. This combination of pulsus alternans and advanced arterial disease is a certain forerunner of severe heart failure which will prove fatal within two or possibly three years. The prognostic importance of the type of pulse irregularity is very great, as it is the only form of pulse rhythm which in itself gives definite information about the functional efficiency of the heart. Windle's observations do not support the prevalent opinion that digitalis readily produces pulsus alternans or that in cases in which this type of pulse is present it aggravates the irregularity. In fact, Windle finds that digitalis frequently has the opposite effect;